Hiroshi INOUE*: Critical notes on some Asiatic hepatics

井 上 浩*: アジア産苔類数種の検討

There are some species of hepatics which occur in Japan, Formosa, China, and/or the Himalayas, and have been described under different names in each region. Some of them are considered to be conspecific or geographical variants. Recently I could study type specimens of some of such species. The following notes are the results of this study.

Metacalypogeia cordifolia (Steph.) Inoue, Journ. Hattori Bot. Lab. **21**: 233 (1959). *Calypogeia cordifolia* Steph., Spec. Hapat. **3**: 393 (1908). *C. sendaica* Steph., ibid. **6**: 451 (1924). *C. viridis* Steph., ibid. **6**: 452 (1924). *C. stephaniana* Bvrd. in Steph., ibid. **6**: 572 (1924). *C. rigida* Horik., Journ. Sci. Hiroshima Univ. ser. B, 2, **2**: 185 (1934), syn. nov.

Specim. exam. Formosa, Mt. Morrison, Numanodaira～Tataka (Horikawa no. 11141-type of *Calypogeia rigida* in herb. HIRO). Range: Japan, Korea: new to Formosa.

The type specimen of *Calypogeia rigida* is a young and small plant of *Metacalypogeia cordifolia*. It is similar to *Calypogeia stephaniana* which is now treated as a synonym under *M. cordifolia*.

Metacalypogeia remotifolia (Herz.) Inoue, comb. nov. (Fig. 1).

Calypogeia remotifolia Herz., Symb. Sinic. **5**: 23 (1930). *Bazzania subdistans* Horik., Journ. Sci. Hiroshima Univ. ser. B, 2, **2**: 190 (1934), syn. nov. *Metacalypogeia montana* (Horik.) Inoue, Journ. Hattori Bot. Lab. **21**: 233 (1959), syn. nov. *Bazzania montana* Horik., ibid. **1**: 80 (1931). *Calypogeia verruculosa* Hatt., Journ. Jap. Bot. **19**: 349 (1943).

Specim. exam. China, Prov. Setchwan, 3600 m alt. (Handel-Mazzetti no. 2945-type in herb. W). Formosa, Mt. Morrison, summit～Hattukwan (Horikawa no. 9214-type of *Bazzania subdistans* in herb. HIRO). Range: Japan, Formosa, China.

Bazzania subdistans was originally described as "flagella nullis". This is not a characteristic of *Bazzania*. The study of the type specimen proved it to be a species of *Metacalypogeia*. Chinese *Calypogeia remotifolia* was compared with *Calypogeia sendaica* (=*Metacalypogeia cordifolia*) by Herzog (Symb. Sinic.

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* National Science Museum, Tokyo. 国立科学博物館.

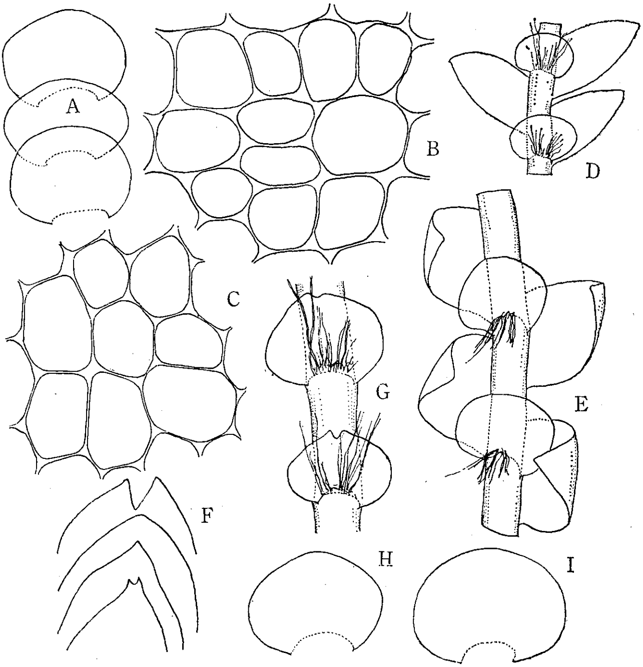

Fig. 1. *Metacalypogeia remotifolia* (Herz.) Inoue. A. Underleaves. ×25. B, C. Cells from leaf middle. ×300. D. Part of plant, postical view. ×18. E. Ditto. ×40. F. Apices of leaves. ×40. G. Underleaves. ×40. H, I. Ditto. ×30. Figs. A, B, D, F, G drawn from type; others from type of *Bazzania subdistans* Horik.

5: 23. 1930). The habitats of *Bazzania subdistans*, *Calypogeia remotifolia*, and *Metacalypogeia montana* are nearly the same and they occurred at the subalpine or alpine districts of Japan, Formosa, and China. Their underleaves are all reniform (1.5–0.2 times as wide as long) and more than 3 times as wide as the stem; the apices of underleaves are rounded or often slightly retuse. The cells of leaf middle of *Calypogeia remotifolia* were measured (17)–20–25×(20)–24–30 μ, those of *Bazzania subdistans* 20–28×25–35 μ, and those of *Metacalypogeia montana* 23–30×27–37 μ. The leaf-apices of *Bazzania subdistans* are usually strongly concave and acute, subacute, or slightly bilobed, whereas those of *Calypogeia remotifolia* and *Metacalypogeia montana* are more often bilobed. Though some differences are observed among those species, important characteristic are essentially the same (form and size of underleaves and cell dimensions at leaf middle, etc.).

The genus *Metacalypogeia* includes three species, as follows:

1. Underleaves more than 2.5 times as wide as stem, reniform .... *M. remotifolia*
Underleaves less than 2 times as wide as stem 2

2. Underleaves bilobed to 1/2 of total length, lobes often with a lateral tooth; leaves distinctly asymmetric........................*M. quelpaertensis**
Underleaves rounded or slightly retuse at apex; leaves usually symmetric or nearly so ....*M. cordifolia*

Plagiochila elegans Mitt., Journ. Linn. Soc. London, Bot. **5**: 97 (1861). *P. permagna* Schiffn. in Steph., Spec. Hepat. **6**: 198 (1921), syn. nov. *P. schutscheana* Herz., Symb. Sinic. **5**: 18 (1930), syn. nov. *P. magnifolia* Horik., Journ. Sci. Hiroshima Univ. ser. B, 2, **2**: 161 (1934).

Specim. exam. Sikkim-Himalaya, Singalelah (?), alt. 8000 ped. (Hooker, without no.-type in herb. NY), prope Kurseong, 1830 m (Decoly & Schaul leg., Schiffner det. no 624-type of *Plagiochila permagna* in herb. NY). China, Prov. Yünnan, 2400–2800 m alt. (Handel-Mazzetti no. 9469-type of *Plagiochila schutscheana* in herb. W). Formosa, Mt. Taiheizan (Horikawa no. 9334-type of *Plagiochila magnifolia* in herb. HIRO). Range: Sikkim-Himalaya, China, Formosa.

In 1962 I reduced *Plagiochila magnifolia* to a synonym under *P. permagna* (Journ. Jap. Bot. 27: 102). Recently I could study the type specimens of *P. elegans* and *P. schutscheana* as well as many specimens of *P. elegans* collected in Sikkim by the members of Indo-Japanese Botanical Expedition to Eastern India in 1960 (in herb. NICH). *P. elegans* is considerably variable in plant- and leaf-size, the number of marginal teeth, and in cell dimensions at leaf middle.

In the type specimen of *P. elegans* the marginal teeth are 40–58 in number, of *P. permagna* 48–66, of *P. magnifolia* 45–56, and of *P. schutscheana* 47–58. Those teeth are acute, all 1–(2) cells wide at base and 2–3–(4) cells long. The cell dimensions at leaf middle are as follows in each type specimen: approximately $27 \times 33\,\mu$ in *P. elegans*, $30–40 \times 36–50\,\mu$ in *P. permagna*, $37–50 \times 37–40\,\mu$ in *P. magnifolia*, and $25–38 \times 20–33\,\mu$ in *P. schutscheana*. The cell walls are thin throughout and the trigones are minute in all species. Herzog (Symb. Sinic. **5**: 18. 1930) noted that *P. schutscheana* differs from *P. elegans* by "Blattzuschnitt und grössere Blattzelle." However, such differences in leaf form and cell dimensions are not recognized in the Sikkim collections.

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* *Metacalypogeia quelpaertensis* Hatt. et Inoue was described from Isl. Quelpart, Korea (Journ. Hattori Bot. Lab. **25**: 129. 1962). Recently this species was found in Japan: Owase City, Mie Pref., 400–800 m alt., on moist granite (H. Inoue no. 8999 in herb. TNS). The oil-bodies of this species are (5)–8–12–(15) per cell, globular or elliptical, composed of numerous minute globules.

P. elegans is closely related to European *P. asplenioides* and Japanese *P. ovalifolia* (especially to its f. *magna*). These three species are very variable taxa.

Plagiochila semidecurrens Lehm. et Lindenb. in L. G. et N., Spec. Hepat. 142 (1840–1844). *P. yünnanensis* Steph., Mem. Soc. Nat. Math. Cherbourg **29**: 225 (1894), syn. nov. (Fig. 2).

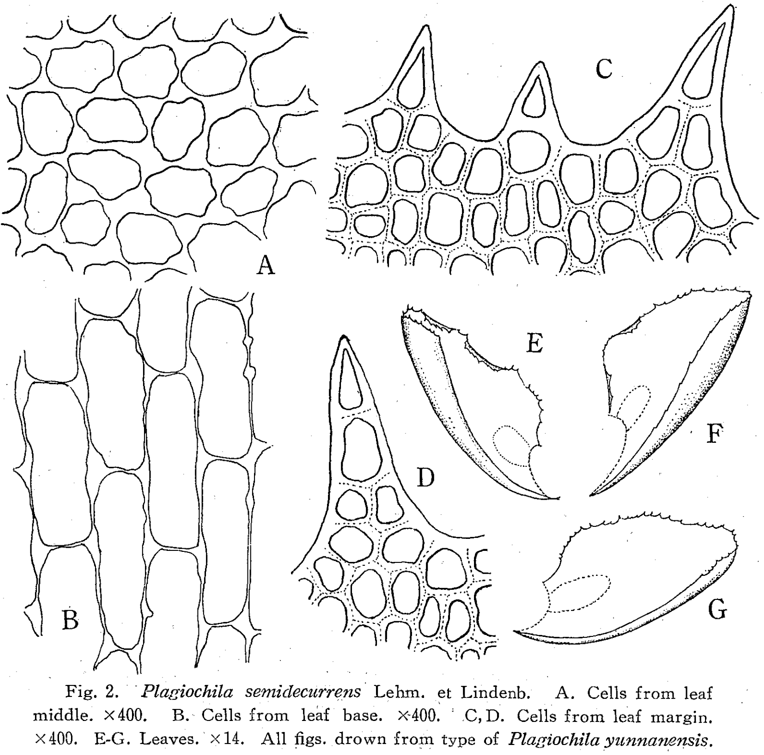

Fig. 2. *Plagiochila semidecurrens* Lehm. et Lindenb. A. Cells from leaf middle. ×400. B. Cells from leaf base. ×400. C, D. Cells from leaf margin. ×400. E-G. Leaves. ×14. All figs. drawn from type of *Plagiochila yunnanensis.*

Specim. exam. China, Prov. Yünnan (Delavay no. 3883-type of *Plagiochila yünnanensis* in herb. PC). Range: Himalaya, China, Formosa, Japan.

The leaves of *P. yünnanensis* are often undulate and have many small marginal teeth, all of which are 1–2–(3) cells long and 1–(2) cells wide at base, and

their apical cells are 2.0–2.5 times as long as wide. The cells in leaf-apex and -margin are 10–16×7–13 μ and those of middle are 10–15×13–18 μ. The vitta cells are well developed and much elongated (3.0–5.3 times as long as wide). The cell walls along leaf margins are much thickened and usually without trigones. These characteristics of *P. yünnanensis* well agree with those of *P. semidecurrens*.

I am much indebted to Dr. S. Hattori for his kind criticism. My sincere thanks are also due to the directors and curators of the following herbaria for their kindness to send me on loan many valuable specimens: Hiroshima University (HIRO), The New York Botanical Garden (NY), Naturhistorisches Museum, Wien (W), and Laboratoire de cryptogamie, Paris (PC).

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台湾から記載された *Calypogeia rigida* は *Matacalypogeia cordifolia* の若い形であり，日本の *Metacalypogeia montana*, 台湾の *Bazzania subdistans*, および支那雲南の *Calypogeia remotifolia* の3種はすべて同一種にまとめられる。以上のことから *Metacalypogeia* 属は日本，朝鮮，台湾，支那と東アジアに分布することになる。*Plagiochila elegans* のもとに*P. permagna*, *P. schutscheana* および *P. magnifolia* を整理した。*P. elegans* は非常に変化に富んだ種で，ヨーロッパ，北アメリカの *P. asplenioides*, 日本の *P. ovalifolia* に近い。支那雲南から記載された *Plagiochila yünnanensis* は *P. semidecurrens* から区別することはできない。

○アソシノブゴケ台湾および中国大陸に産す (渡辺良象) Ryozo WATANABE: *Thuidium kanedae* Sak. newly found in Formosa and China

アソシノブゴケは本邦には極く普通に産するシノブゴケの一種である。本種は従来 *Thuidium japonicum* Doz. et Molk. などと混同視されていたが *Th. japonicum* Doz. et Molk. は *Th. cymbifolium* (Doz. et Molk.) Doz. et Molk. のシノニムであること，および混同視されていた数種は *Th. kanedae* Sak. のもとに合一されるべきであることを私は蘚苔地衣雑報 (**2** (4): 51, 1960) の中において論じておいた。岡村周諦博士が台湾新竹から笹岡氏が採集された標本を東京帝大理科紀要38冊第4編に *Th. japonicum* として報告されたものは私の調べた同標本では *Th. cymbifolium* であった。笹岡氏とは全く別に小泉秀雄氏や松田氏が採集された標本が科学博物館に保存されている。また中国南京市から山崎氏が1916年に *Anomodon minor* (Beauv.) Lindb. を採集されている中に若干 *Th. kanedae* が混入していることを確認し得た。したがって本種は本邦のみならず朝鮮，台湾および中国大陸に分布することがわかった。

Thuidium kanedae Sak., Bot. Mag. Tokyo **57** (681–2): 345 (1943).

Specim. exam. Farmosa, Shorei (Koizumi s.n.): Prov. Takao, Rike city (Matsuda 806). China, Nanking (Yamazaki 611 with *Anomodon minor* in TNS).

Range. Japan, Korea, Formosa and China.

(東京都北多摩郡[redacted])